




2023 ASSET MANAGEMENT REPORT CARD

# Water Distribution

Total asset replacement value	<b>\$636 million</b>
Current condition	<b>GOOD</b>
Projected condition in 25 years	<b>FAIR</b> 
Annual funding needed to meet target performance	<b>\$3.8 million</b>
Annual average funding	<b>\$3.8 million</b>
Annual funding gap	<b>\$0</b>
Funding source	<b>Water user fees</b>
Data maturity level	<b>High</b>

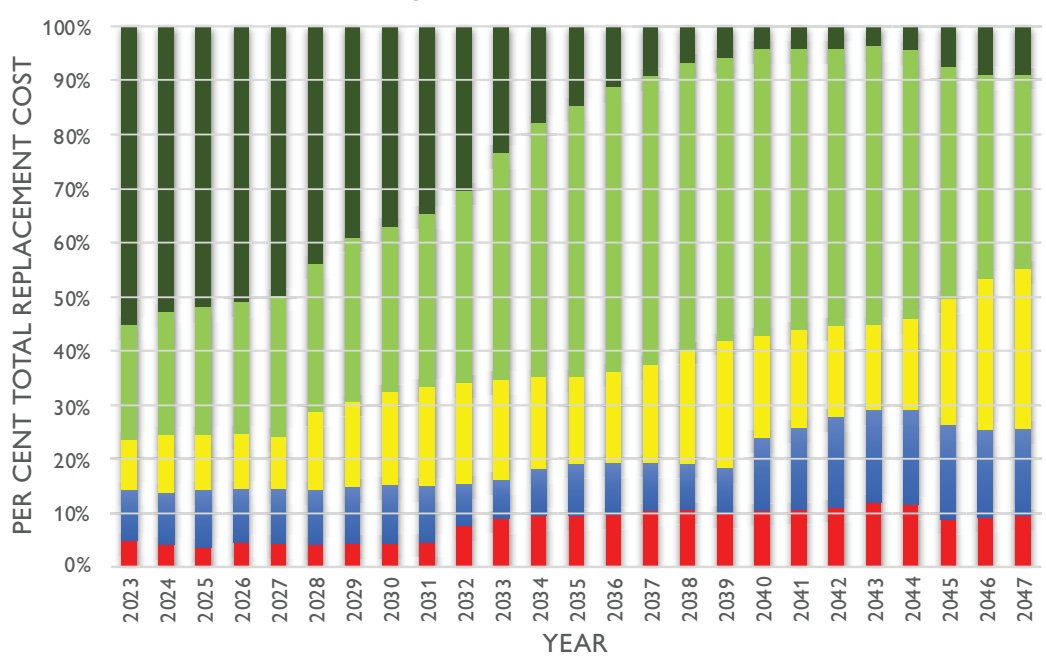


Annual funding needed: **\$3.8 million**



Assets include  
442 km of pipe and  
2,601 fire hydrants.

Annual performance of water assets



- Excellent
- Good
- Fair
- Poor
- Very Poor

## CURRENT STRATEGY

The City’s water distribution assets are fire hydrants, and the watermains that transport water to our homes and businesses. Water distribution is a highly regulated service and the City of Waterloo must meet strict provincial regulations and drinking water quality standards. Water distribution is a user fee funded asset.

Watermains can either be rehabilitated or replaced. The City of Waterloo replaces watermains that experience a high number of breaks, or that have reached the end of their useful life. Watermain work is coordinated with other necessary replacement work on sanitary or stormwater sewers and road reconstruction. The estimated service life for watermains ranges between 50 and 93 years depending on the material type (e.g. cast iron, polyvinyl chloride) and 50 years for fire hydrants.

## ASSET PERFORMANCE

Water distribution asset performance is evaluated using historical knowledge, age, and observed conditions. The quality and availability of our asset data (data maturity) are continuously evolving. The current data maturity level for water distribution assets is assessed to be high. The City is continuously working to improve asset data quality.

Approximately 14% of water distribution assets are in poor or very poor condition. Over the 25-year timeline, we anticipate the percentage of our water network with a poor or very poor performance profile to increase from approximately 14% in 2023 to around 25% by 2047. Based on the best available water asset data, deterioration rates and 2023-2032 capital funding, we estimate that water assets is sufficiently funded.

## LEVELS OF SERVICE

The following tables show the levels of service established by the City for water distribution assets. These metrics include the technical and community level of service required as part of the Ontario Regulation 588/17. Service metrics are reported for the prior year ending on December 31.



14%

Water distribution assets with a poor or very poor performance

## COMMUNITY LEVELS OF SERVICE

The following table outlines the qualitative descriptions that determine the community levels of service for water distribution assets.

SERVICE ATTRIBUTE	QUALITATIVE DESCRIPTION	2021
<b>Scope</b>	Description, which may include maps, of the user groups or areas of the city that are connected to the municipal water system.	The City of Waterloo is largely built out to the municipal boundary, and provides drinking water to most properties within the urban areas while a small portion of the rural areas are serviced by private wells.
<b>Scope</b>	Description, which may include maps, of the user groups or areas of the city that are connected to the municipal water system.	A vast portion of the built out municipality has access to municipal drinking water and in turn adequate fire flow.
<b>Reliability</b>	Description of boil water advisories and service interruptions.	<p>A boil water advisory is issued when contaminants are detected in the water supply and present an immediate public health threat. This excludes pre-cautionary advisories due to operational activities to maintain service.</p> <p>A service interruption is a result of a failure in the city managed water distribution system and excludes planned interruptions.</p>

## TECHNICAL LEVELS OF SERVICE

The following table outlines the quantitative metrics that determine the technical level of service for water distribution assets.

SERVICE ATTRIBUTE	QUANTITATIVE METRICS	2021	2022
Scope	Properties connected to the municipal water system (per cent)	99.58%	99.59%
Scope	Properties where fire flow is available (per cent)	99.86%	99.85%
Reliability	Number of connection days per year where a boil water advisory notice is in place, compared to the total number of properties connected (per cent)	0%	0%
Reliability	Number of connection days per year due to water main breaks compared to the total number of properties connected to the system (per cent)	0.72	1.99

*The information presented here is based on the best currently available data regarding asset inventory, performance, and degradation curves, along with funding included in 2023 approved capital budget and 2024-2032 capital forecast.*